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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,262	12/04/2006	Hisashi Koga	4600-0119PUS1	3029

2292 7590 10/24/2007

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EXAMINER	
LOCKARD, JON MCCLELLAND	
ART UNIT	PAPER NUMBER
1647	

NOTIFICATION DATE	DELIVERY MODE
10/24/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/573,262	KOGA ET AL.	
	Examiner	Art Unit	
	Jon M. Lockard	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-19* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *sequence alignments*.

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-4, 7-8, 12, and 16, drawn to polynucleotides, vectors and host cells comprising the same, and compositions and kits comprising the same.

Group II, claim(s) 5-6, 14, and 19, drawn to polypeptides, and kits and compositions comprising the same.

Group III, claim(s) 9, drawn to transgenic organisms.

Group IV, claim(s) 10 and 18, drawn to antibodies, and compositions and kits comprising the same.

Group V, claim(s) 11 and 15, drawn to a screening method utilizing a polynucleotide or cells comprising said polynucleotide.

Group VI, claim(s) 13, drawn to a screening method utilizing a polypeptide.

Group VII, claim(s) 17, drawn to a screening method utilizing an antibody.

2. The inventions listed as Groups I-VII do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group I is directed to a DNA comprising a base sequence encoding a polypeptide comprising the full length or a part of an amino acid sequence which is the same or substantially the same as an amino acid sequence represented by SEQ ID NO:1. However, since van der Zwaag et al. (Dev. Dyn. 225:336-343, 2002) teach a cDNA (accession no. AY116661) that encodes a PLEXIN-D1 polypeptide (See Fig. 1) that shares 92% sequence identity to SEQ ID NO:1 (See attached sequence alignment), and thus encodes part of an amino acid sequence which is the same or substantially the same as SEQ ID NO:1, no special technical feature exists for group I as defined by PCT Rule 13.2, because it does not define a

contribution over the prior art. Because the technical feature of Group I is not a special technical feature, and because the technical features of the Groups II-VII inventions is not present in the Group I claims, unity of invention is lacking. Furthermore, the polynucleotides of Group I, the polypeptides of Group II, the transgenic organisms of Group III, and the antibodies of Group IV are structurally and functionally different chemical compounds, having different structures and activities, or in the case of the transgenic animals an organism, and each of which can be made and used without the other compounds. The methods of Groups V, VI, and VII require compounds which are functionally different from each other and each can be made and used without the other. Lack of unity is shown because these compounds lack a common utility which is based upon a common structural feature which has been identified as the basis for that common utility.

Further Restriction Within Groups I-VII

3. Whichever Group is elected, further restriction within the elected Group is required to one of the following:

> Applicants must further elect ***one*** polypeptide and the corresponding nucleic acid that encodes said polypeptide selected from SEQ ID NO: (encoded by SEQ ID NO:2), SEQ ID NO:15 (encoded by SEQ ID NO:16), or SEQ ID NO:18 (encoded by SEQ ID NO:19)

4. The polypeptides and polynucleotide molecules do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Each polypeptide and polynucleotide molecule represents a structurally and functionally different chemical compound from each other, having different chromosomal locations and sequences for the nucleic acids, and having different amino acid sequences, structures and activities for the polypeptides, each of which can be made and used without the other compounds. Accordingly, the methods of using the compounds are also, therefore, different methods. Lack of unity is shown because these compounds and methods lack a common utility which is based upon a common structural feature

which has been identified as the basis for that common utility.

5. **Applicants are advised that this is not a species election.**

6. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

7. In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder**. Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

8. **Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined** even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected invention**.

9. The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

10. If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

11. Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

12. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Advisory Information

Effective November 1, 2007, if applicant wishes to present more than 5 independent claims or more than 25 total claims in an application, applicant will be required to file an examination support document (ESD) in compliance with 37 CFR 1.265 before the first Office action on the merits (hereafter "5/25 claim threshold"). See Changes to Practice for Continued Examination Filings, Patent Applications Containing Patentably Indistinct Claims, and Examination of Claims in Patent Applications, 72 Fed. Reg. 46715 (Aug. 21, 2007), 1322 Off. Gaz. Pat. Office 76 (Sept. 11, 2007) (final rule). The changes to 37 CFR 1.75(b) apply to any pending applications in which a first Office action on the merits (FAOM) has not been mailed before November 1, 2007. Withdrawn claims will not be taken into account in determining whether an application exceeds the 5/25 claim threshold. For more information on the final rule, please see http://www.uspto.gov/web/offices/pac/dapp/opla/presentation/clmcontfinalrule.html.

In response to the restriction requirement set forth in this Office action, applicant is required to file an election responsive to the restriction requirement. Applicant may not file a suggested restriction requirement (SRR) in lieu of an election responsive to the restriction requirement as a reply. A SRR alone will not be considered a *bona-fide* reply to this Office action.

If applicant elects an invention that is drawn to no more than 5 independent claims and no more than 25 total claims, applicant will not be required to file an ESD in compliance with 37 CFR 1.265 that covers each of the elected claims. If the elected invention is drawn to more than 5 independent claims or more than 25 total claims, applicant may file an amendment canceling a number of elected claims so that the elected invention would be drawn to no more than 5 independent claims and no more than 25 total claims.

If the restriction requirement is mailed on or after November 1, 2007, applicant is also required to file an ESD in compliance with 37 CFR 1.265 that covers each of the elected claims, unless the elected invention is drawn to no more than 5 independent claims and no more than 25 total claims taking into account any amendment to the claims. To avoid the abandonment of the

application, the ESD (if required) and the election must be filed within **TWO MONTHS** from the mailing date of this Office action. The two-month time period for reply is extendable under 37 CFR 1.136.

If the restriction requirement is mailed before November 1, 2007, the election must be filed within **ONE MONTH** or THIRTY DAYS, whichever is longer, from the mailing date of this Office action. The time period for reply is extendable under 37 CFR 1.136. Furthermore, if the elected invention is drawn to more than 5 independent claims or more than 25 total claims taking into account any amendment to the claims, the Office will notify applicant and provide a time period in which applicant is required to file an ESD in compliance with 37 CFR 1.265 covering each of the elected claims or amend the application to contain no more than 5 independent elected claims and no more than 25 total elected claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jon M. Lockard** whose telephone number is **(571) 272-2717**. The examiner can normally be reached on Monday through Friday, 7:00 AM to 4:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Manjunath N. Rao**, can be reached on **(571) 272-0939**.

The fax number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see **http://pair-direct.uspto.gov**. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866-217-9197** (toll-free).

Jon M. Lockard, Ph.D.
October 18, 2007

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RT   and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN   [4]
RP   GLYCOSYLATION [LARGE SCALE ANALYSIS] AT ASN-500, AND MASS
RP   SPECTROMETRY.
RX   PubMed=16335952; DOI=10.1021/pr0502065;
RA   Liu T., Qian W.-J., Gritsenko M.A., Camp D.G. II, Monroe M.E.,
RA   Moore R.J., Smith R.D.;
RT   "Human plasma N-glycoproteome analysis by immunoaffinity subtraction,
RT   hydrazide chemistry, and mass spectrometry.";
RL   J. Proteome Res. 4:2070-2080(2005).
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=1;
CC         IsoId=Q9Y4D7-1; Sequence=Displayed;
CC       Name=2;
CC         IsoId=Q9Y4D7-2; Sequence=VSP_011516;
CC   -!- TISSUE SPECIFICITY: Detected at low levels in heart, placenta,
CC       lung, skeletal muscle, kidney, thymus and liver. Detected at very
CC       low levels in brain, colon, spleen, small intestine and peripheral
CC       blood leukocytes.
CC   -!- SIMILARITY: Belongs to the plexin family.
CC   -!- SIMILARITY: Contains 3 IPT/TIG domains.
CC   -!- SIMILARITY: Contains 1 Sema domain.
CC   ----------------------------------------------------------------------
CC   Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
CC   Distributed under the Creative Commons Attribution-NoDerivs License
CC   ----------------------------------------------------------------------
DR   EMBL; AB014520; BAA31595.1; ALT_INIT; mRNA.
DR   EMBL; AY116661; AAM49063.1; -; mRNA.
DR   EMBL; BC003526; AAH03526.1; -; mRNA.
DR   EMBL; BC011848; AAH11848.1; -; mRNA.
DR   UniGene; Hs.301685; -.
DR   Ensembl; ENSG00000004399; Homo sapiens.
DR   HGNC; HGNC:9107; PLXND1.
DR   MIM; 604282; gene.
DR   InterPro; IPR002909; IPT_TIG_rcpt.
DR   InterPro; IPR003659; Plexin-like.
DR   InterPro; IPR013548; Plexin_cytopl.
DR   InterPro; IPR002165; Plexin_repeat.
DR   InterPro; IPR008936; Rho_GAP.
DR   InterPro; IPR001627; Sema.
DR   Pfam; PF08337; Plexin_cytopl; 1.
DR   Pfam; PF01437; PSI; 2.
DR   Pfam; PF01403; Sema; 1.
DR   Pfam; PF01833; TIG; 3.
DR   SMART; SM00429; IPT; 3.
DR   SMART; SM00423; PSI; 3.
DR   SMART; SM00630; Sema; 1.
DR   PROSITE; PS51004; SEMA; 1.
KW   Alternative splicing; Glycoprotein; Membrane; Polymorphism; Receptor;
KW   Repeat; Signal; Transmembrane.
FT   SIGNAL        1     46       Potential.
FT   CHAIN        47   1925       Plexin-D1.
FT                              /FTId=PRO_0000024676.
FT   TOPO_DOM     47   1271       Extracellular (Potential).
FT   TRANSMEM   1272   1292       Potential.
```

Sequence Alignments 10/573,262

RESULT 4
PLXD1_HUMAN
ID PLXD1_HUMAN STANDARD; PRT; 1925 AA.
AC Q9Y4D7; Q6PJS9; Q8IZJ2; Q9BTQ2;
DT 31-AUG-2004, integrated into UniProtKB/Swiss-Prot.
DT 31-AUG-2004, sequence version 2.
DT 25-JUL-2006, entry version 36.
DE Plexin-D1 precursor.
GN Name=PLXND1; Synonyms=KIAA0620;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Haplorrhini;
OC Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA] (ISOFORM 1).
RC TISSUE=Brain;
RX MEDLINE=98403880; PubMed=9734811; DOI=10.1093/dnares/5.3.169;
RA Ishikawa K., Nagase T., Suyama M., Miyajima N., Tanaka A., Kotani H.,
RA Nomura N., Ohara O.;
RT "Prediction of the coding sequences of unidentified human genes. X.
RT The complete sequences of 100 new cDNA clones from brain which can
RT code for large proteins in vitro.";
RL DNA Res. 5:169-176(1998).
RN [2]
RP NUCLEOTIDE SEQUENCE [MRNA] (ISOFORM 1), AND TISSUE SPECIFICITY.
RX MEDLINE=22299888; PubMed=12412018; DOI=10.1002/dvdy.10159;
RA van der Zwaag B., Hellemons A.J.C.G.M., Leenders W.P.J.,
RA Burbach J.P.H., Brunner H.G., Padberg G.W., Van Bokhoven H.;
RT "PLEXIN-D1, a novel plexin family member, is expressed in vascular
RT endothelium and the central nervous system during mouse
RT embryogenesis.";
RL Dev. Dyn. 225:336-343(2002).
RN [3]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA] OF 1386-1925 (ISOFORMS 1 AND
RP 2).
RC TISSUE=Muscle, and Uterus;
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length human

```
FT   TOPO_DOM   1293   1925       Cytoplasmic (Potential).
FT   DOMAIN       47    546       Sema.
FT   DOMAIN      891    979       IPT/TIG 1.
FT   DOMAIN      981   1066       IPT/TIG 2.
FT   DOMAIN     1069   1160       IPT/TIG 3.
FT   CARBOHYD     86     86       N-linked (GlcNAc. . .) (Potential).
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FT   CARBOHYD    224    224       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD    481    481       N-linked (GlcNAc. . .) (Potential).
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FT   CARBOHYD    583    583       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD    696    696       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD    736    736       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD    802    802       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD    965    965       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD   1017   1017       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD   1060   1060       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD   1099   1099       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD   1118   1118       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD   1132   1132       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD   1237   1237       N-linked (GlcNAc. . .) (Potential).
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FT                                LSEQEMNAHLAEESRKYQNEFNTNVAMAEIYKYAKRYRPQI
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FT                                RWRPSSPVLGEHPEEPPVCL (in isoform 2).
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FT                                /FTId=VAR_022144.
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  Query Match             92.2%;  Score 8468;  DB 1;  Length 1925;
  Best Local Similarity   91.9%;  Pred. No. 0;
  Matches 1606;  Conservative   52;  Mismatches   88;  Indels    2;  Gaps    1;

Qy          1 SMLNVAANHPNASTVGLVLPPTSGTGGSRLLVGATYTGFGSAFFPRNRSLEDHRFENTPE 60
              |||||||||||||||||||| :| |||||||||||||:||:||||||||||||||||||
Db        178 SMLNVAANHPNASTVGLVLPPAAGAGGSRLLVGATYTGYGSSFFPRNRSLEDHRFENTPE 237

Qy         61 IAIRSLDARGDLAKLFTFDLNPSDDNILKIKQGAKEQHKLGFVRAFLHPAVPPHSAQPYA 120
              ||||||| |||||||||||||||||||||||||||||||||| |||||: ||  || ||
Db        238 IAIRSLDTRGDLAKLFTFDLNPSDDNILKIKQGAKEQHKLGFVSAFLHPSDPPPGAQSYA 297

Qy        121 YLALNSEARAGDKDSQARSLLARICLPRGAGGDAKKLTESYIQLGLQCAGGAGRGDLYSR 180
              |||||||||||||:||||||||||||| ||||||||||||||||||||||||||||||||
Db        298 YLALNSEARAGDKESQARSLLARICLPHGAGGDAKKLTESYIQLGLQCAGGAGRGDLYSR 357

Qy        181 LVSVFPAREQFFAVFERPQGAPGARNAPAALCAFRFDDVQAAIRAARTACFVEPAPDVVA 240
              |||||||||: |||||||||:| || |||||||||| ||:||||||||||||||||||||
Db        358 LVSVFPARERLFAVFERPQGSPAARAAPAALCAFRFADVRAAIRAARTACFVEPAPDVVA 417

Qy        241 VLDSVVQGTGPACESKRNIQLQPEQLDCGAAHLQHPLTILQPLRASPVFRAPGLTAVAVA 300
              |||||||||||||| | ||||||||||||||||||:|||||:|:||||||||||:||||
Db        418 VLDSVVQGTGPACERKLNIQLQPEQLDCGAAHLQHPLSILQPLKATPVFRAPGLTSVAVA 477
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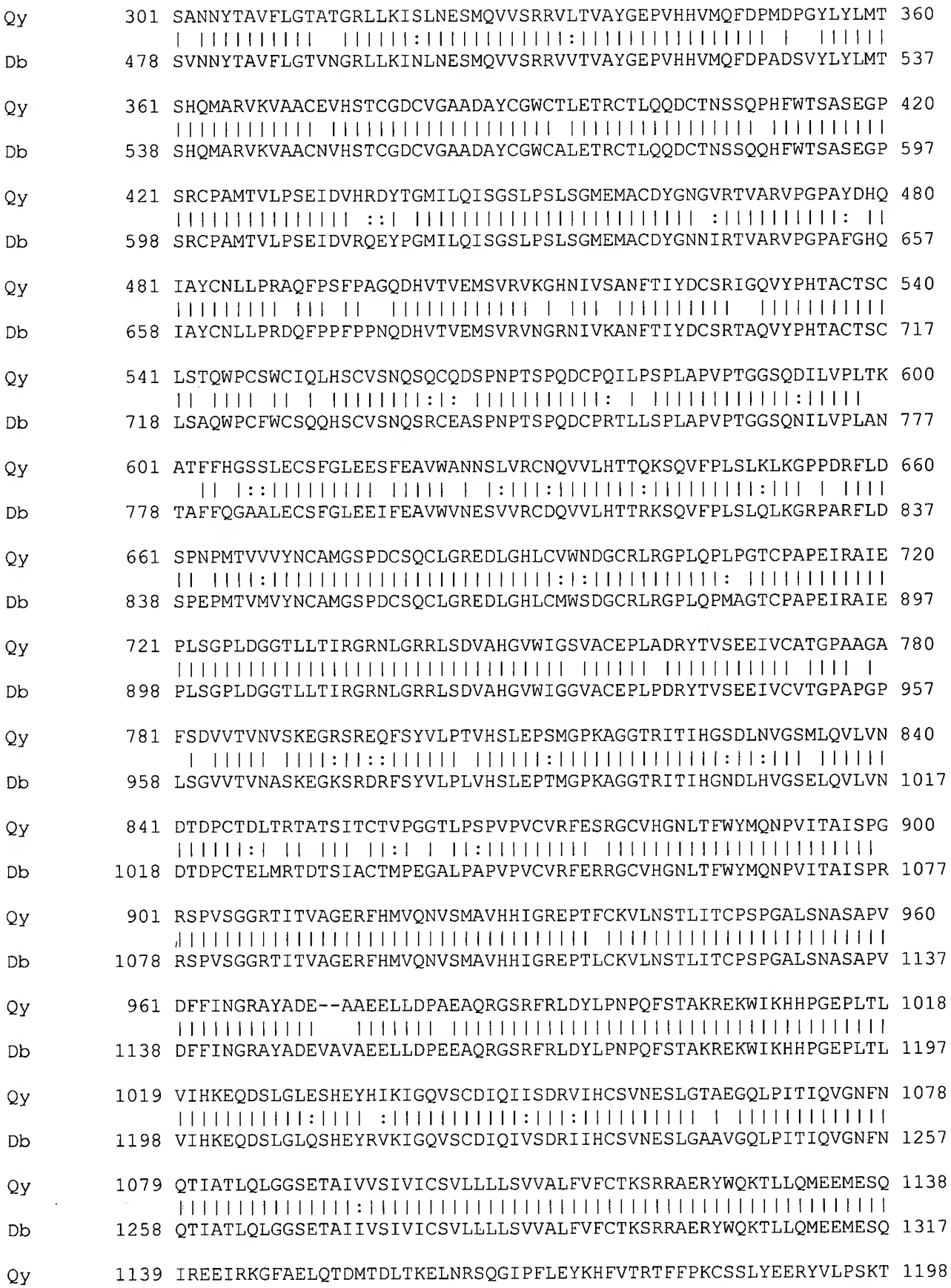

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                 |||||  |  |||||||||| ||| |||:|||||||||||||||||||||||||||||||
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AY116661
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ACCESSION AY116661
VERSION AY116661.1 GI:24953986
KEYWORDS .
SOURCE Homo sapiens (human)
ORGANISM Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Primates; Haplorrhini; Catarrhini; Hominidae; Homo.
REFERENCE 1 (bases 1 to 7095)
AUTHORS Van Der Zwaag,B., Hellemons,A.J., Leenders,W.P., Burbach,J.P., Brunner,H.G., Padberg,G.W. and Van Bokhoven,H.
TITLE PLEXIN-D1, a novel plexin family member, is expressed in vascular endothelium and the central nervous system during mouse embryogenesis
JOURNAL Dev. Dyn. 225 (3), 336-343 (2002)
PUBMED 12412018
REFERENCE 2 (bases 1 to 7095)
AUTHORS van der Zwaag,B. and van Bokhoven,H.
TITLE Direct Submission
JOURNAL Submitted (31-MAY-2002) Neurology, UMC Nijmegen, Reinier Postlaan 4, Nijmegen, Gelderland 6525 GC, The Netherlands
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ORIGIN

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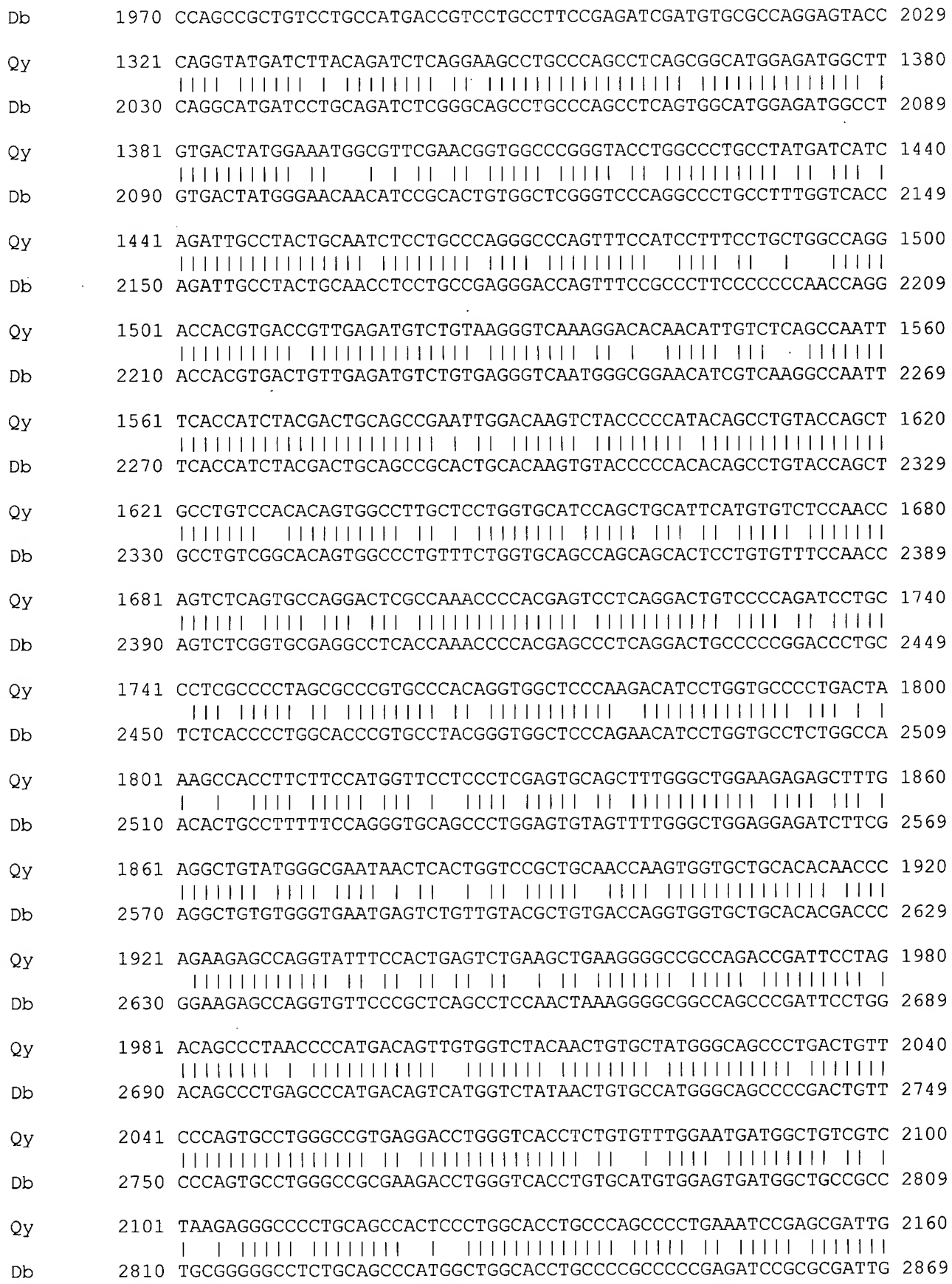

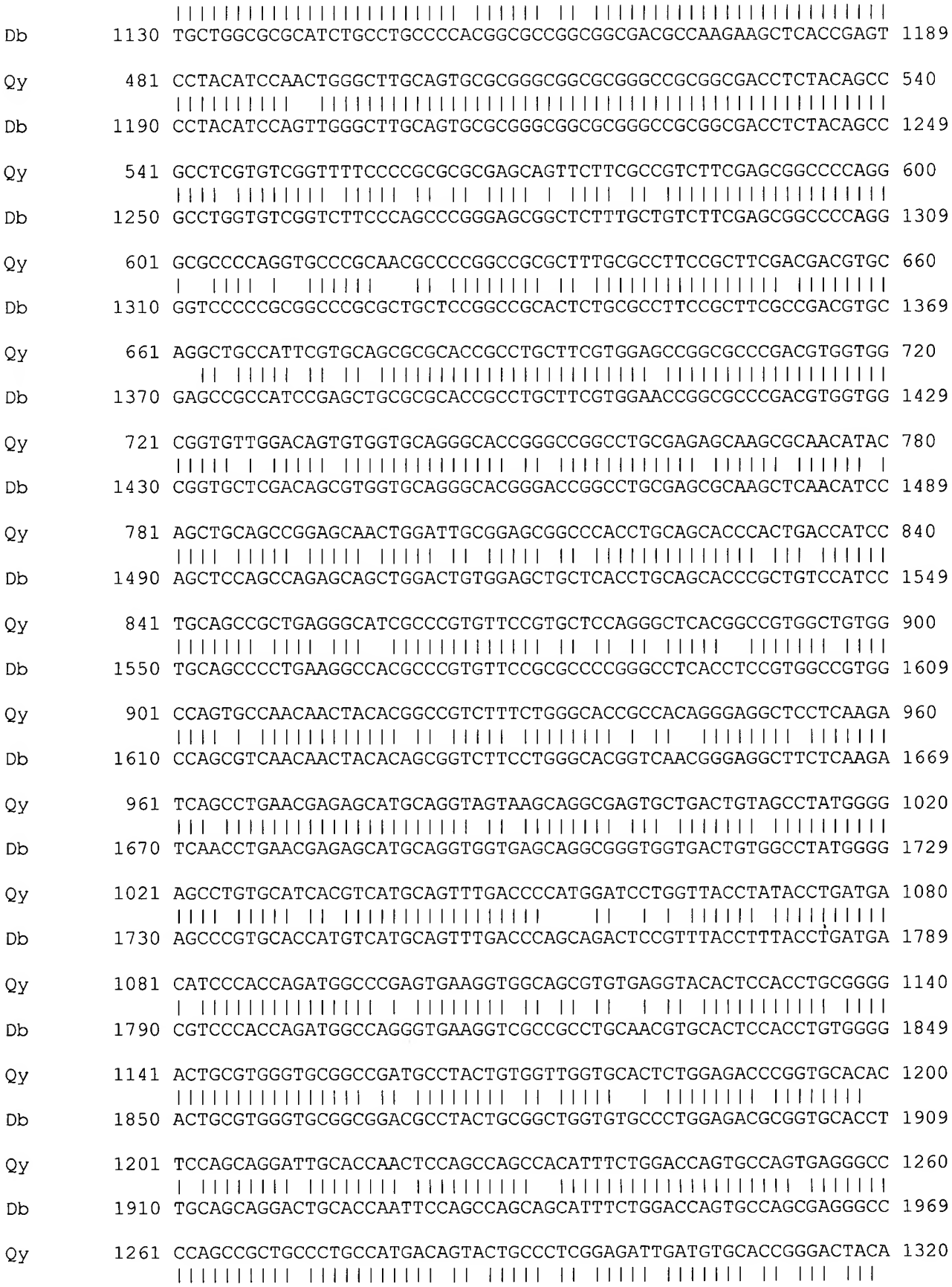

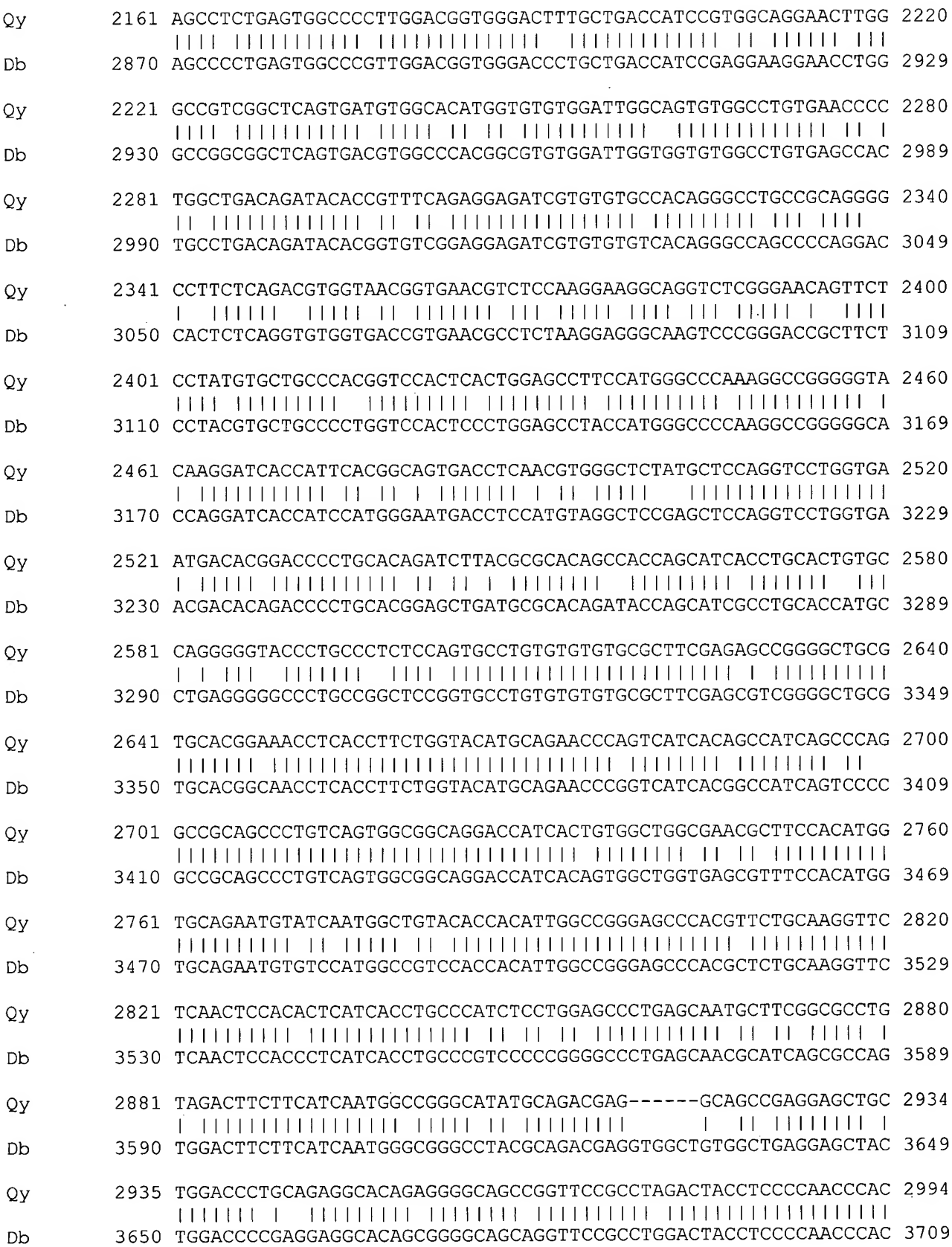

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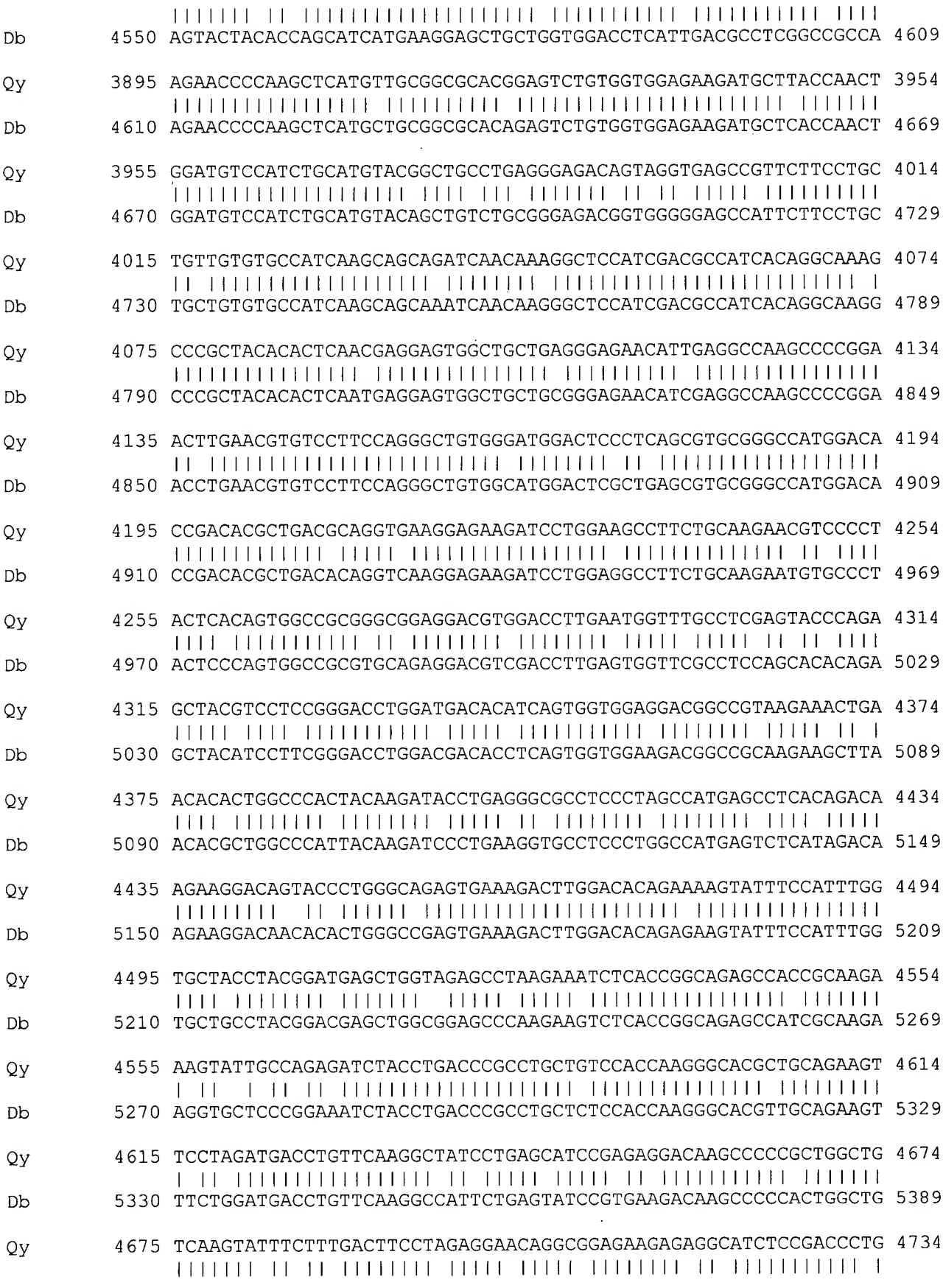

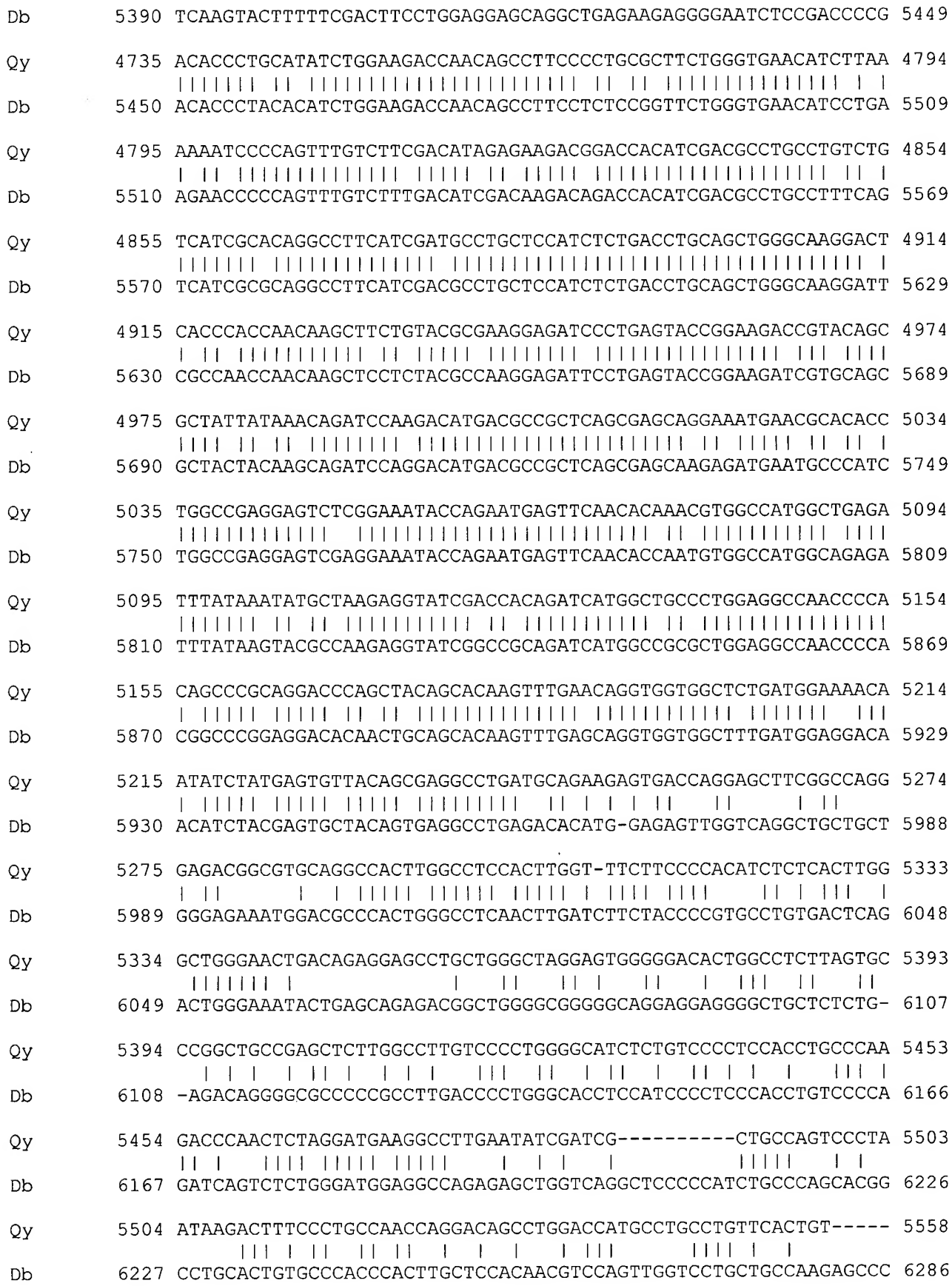
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